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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/598,923	09/14/2006	Makoto Murata	WATAB6.001APC	2125

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EXAMINER

AHMED, SHEEBA

ART UNIT	PAPER NUMBER
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1794

NOTIFICATION DATE	DELIVERY MODE
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12/26/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

jcartee@kmob.com
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Office Action Summary	Application No. 10/598,923	Applicant(s) MURATA ET AL.	
	Examiner SHEEBA AHMED	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 1-8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 9-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/06; 10/06</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group III in the reply filed on November 19, 2008 is acknowledged.

Amendments to Claims

2. Claim 9 has been amended in the above-identified application. Claims 11 and 12 have been added. Claims 1-12 are now pending of which **claims 9-12 are now under consideration.**

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 9 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Ohnishi et al. (US 5,144,464 A).

Ohnishi et al. disclose a polymer liquid crystal device formed by a color polymer liquid crystal layer, generally disposed on a substrate. The color polymer liquid crystal layer includes **a plurality of minute polymer liquid crystal elements** (See Abstract). Polymer liquid crystals suitably used may be thermotropic liquid crystals which show nematic, smectic or cholesteric phase as a mesophase. A thermotropic polymer liquid

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crystal has advantages that it can be formed into a thin film and can easily retain a recorded state compared with a low-molecular weight liquid crystal. Specific examples of the polymer liquid crystal which may be used include those represented by formulas given in Columns 3 and 4 and include those claimed in instant claim 12. In the recording mode, a polymer liquid crystal is first held in a polydomain state in a liquid crystal phase comprising a large number of domains (minute regions). Then, the polymer liquid crystal is heated to a temperature at which it assumes an isotropic phase and then quickly cooled to below the glass transition temperature to retain the isotropic state, whereby a recording is effected. The resultant recorded region can be restored to the original polydomain state if it is heated to a temperature giving the isotropic phase or in the neighborhood thereof and then gradually cooled. Further, it is also possible to use a recording mode wherein an original, non-recorded state is formed by a light non-scattering state and a recorded state is formed in a light scattering state. The size of each minute element may be $1\text{ }\mu\text{m}^2$ or larger, preferably $10\text{ }\mu\text{m}^2$ larger. The upper limit in size of each minute element is determined from the standpoint of not giving a too coarse appearance and greatly depends on the entire size of the polymer liquid crystal device or a distance for viewing the device. See Column 2, lines 44-50, structures given in Columns 3 and 4, Column 4, lines 65-68; Column 5, lines 1-11 and Column 5, lines 60-68. All limitations of claims 9 and 12 are disclosed in the above reference.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohnishi et al. (US 5,144,464 A).

Ohnishi et al., as discussed above, do not teach that the polymer liquid crystal fine particles have a spherical shape and wherein the weight average molecular weight is in a range from 5,000 to 1,000,000.

However, it would have been obvious to one having ordinary skill in the art to optimize the shape of the particles and the weight average molecular weight of the particle given that a spherical shape provides better packing when the particles are placed next to each other and given that a higher molecular weight polymer liquid crystal has advantages in that it can easily retain a recorded state compared with a low molecular weight liquid crystal.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to SHEEBA AHMED whose telephone number is (571)272-1504. The examiner can normally be reached on Monday-Friday from 8am to 4:30pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on (571)272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sheeba Ahmed/
Primary Examiner, Art Unit 1794